

Our planet is home to a tremendous wealth of natural beauty and environmental resources. As I consider the world we will leave our children and grandchildren it becomes clear to me that it is our undeniable responsibility to preserve the region's natural wonders for future generations. Over the last several years there have been a number of devastating natural disasters that have destroyed homes and disrupted countless lives. Below, I wanted to share with you some information about recent disasters and their effects.

Hurricanes:

Below is some information on a variety of recent hurricanes:

- **Hurricane Ike, 2008:** September 1st-September 14th, 2008. Ike was the third costliest storm to ever make landfall in the United States. Ike accounted for at least 195 total casualties (103 direct casualties), of whom at least 112 were American and at least 74 were Haitian.
- **Hurricane Dean, 2007:** August 13th- August 23rd, 2007. A Category 5 Hurricane, Dean resulted in the third most intense Atlantic hurricane landfall. It resulted in 45 deaths over ten countries, including one American, and resulted in over \$1.5 billion in damages.

Tornadoes:

To compare recent years of tornado activity, the table below provides data on tornadoes from the last three years:

2008	2009	2010 (As of June)	
Total Tornadoes	1690 (the second most active year on record)	1156	394
EF0*	984	690	163
EF1*	494	347	134
EF2*	150	82	67
EF3*	51	20	20
EF4*	10	2	10

EF5*	1	0	0
Fatalities	125 (Deadliest year since 211998)		28
Estimated Total Cost of Damages	\$1.8 Trillion	N/A	N/A

*EF Scale - Enhanced Fujita Scale rates the strength of tornadoes in the United States based on the damage they cause.

For comparison from 1950-1999, the average year would have featured 810 tornadoes, and would have resulted in 89 fatalities.

*All data was collected from the Storm Prediction Center (SPC) at the National Oceanic and Atmospheric Administration (NOAA).

Below is a listing of notable recently recorded tornadoes:

- **June 2010 Montana Tornado Outbreak:** June 20th- June 21st, 2010. A series of 8 confirmed tornadoes in Montana and Wisconsin, the three most severe were EF2 tornadoes. No fatalities were reported, but one EF2 tornado destroyed a large portion of the roof of the Rimrock Auto Arena at Metrapark.

- **Mid-June 2010 Tornado Outbreak:** June 16th- June 17th, 2010. A series of 23 confirmed tornadoes (though 75 were reported) in Minnesota and North Dakota. There were a total of 4 EF4 tornadoes (out of the ten nationwide as of June 24th) and 3 deaths. The 3 EF4 tornadoes in Minnesota were the most in a single tornado outbreak in Minnesota since 1967. This was the deadliest tornado outbreak in Minnesota since 1978.

- **Early-June 2010 Tornado Outbreak:** June 5th- June 6th, 2010. A series of 46 tornadoes that struck Ohio, Iowa, and Northern New England. There were six confirmed casualties in

Ohio.

- **May 2010 Oklahoma Tornado Outbreak:** May 10th- May 13th, 2010. A series of 39 tornadoes that struck Oklahoma, Kansas, and Missouri. There were two EF4 tornadoes in Oklahoma which were cumulatively responsible for three deaths.

- **April 2010 Tornado Outbreak:** April 22nd- April 24th, 2010. A series of 54 tornadoes across a large part of the southern United States. The most severe activity was on April 24th in Mississippi, when a single EF4 tornado (the second highest rating on the Enhanced Fujita Scale, which measures the severity of tornadoes) resulted in 10 deaths.

- **Mid-Atlantic Tornadoes, 2008:** Around August 10th, 2008. Tornadoes were recorded in towns in New Jersey that have not experienced a tornado in 50-60 years.

- **Late May 2008 Tornado Outbreak, 2008:** May 22nd- May 31st, 2008. A series of 235 tornadoes that struck the Great Plains and the Midwest. The series included an EF5 tornado in Iowa, the first of its kind in Iowa 1976 and the second deadliest in Iowa since record-keeping began in 1950. The outbreak in its entirety resulted in 12 fatalities and an estimated \$343 million in damage.

- **Super Tuesday Tornado Outbreak, 2008:** February 5th-February 6th, 2008. It affected states in the South and the lower Ohio Valley. It is the most extreme tornado outbreak since the implementation of the NEXRAD Doppler Radar began in 1997. 57 people were killed across 4 states, and most of the casualties occurred in the Nashville area. 22 of these fatalities were caused by a single tornado in Trousdale County, Tennessee, which was the deadliest single tornado in Middle Tennessee in 75 years, and the deadliest in the US since 2005.

Floods:

Below is a sample of the floods in the United States and around the world:

Arkansas Floods, 2010: June 10th, 2010. The floods resulted in 16 casualties, all of whom had been camping at the Albert Pike campground at the time of the flood. A spokesman reported

that the Little Missouri River rapidly rose from 3 feet to over 20 feet over the course of a mere few hours in the early morning.

Southeastern Connecticut and Rhode Island Flood, 2010: March 30th, 2010. The flooding was a result of a nor'easter that had occurred on March 13th-14th. There was severe damage, but critics say that the recognized disaster area was too small and prevented many affected people from receiving the aid they needed. Therefore, a portion of the damage has yet to be repaired.

Tennessee Floods, 2010: April 30th- May 7th, 2010. The floods were brought on by over 19 cumulative inches of torrential rain, the most rain from one storm in the region since Hurricane Frederick in 1979. The Cumberland River crested at over 51 feet (reports vary from 51 feet to 62 feet), the highest level since 1937. The floods resulted in 31 deaths in Tennessee, Kentucky and Mississippi.

New Jersey Floods, 2010: March 2010. This flooding occurred all over New Jersey as a result of a nor'easter and melting snow from a series of three blizzards in February (see below). No fatalities were confirmed, but there were reports of moderate to severe flooding all across the state and moderate damage.

Orange County Floods, 2010: February 27th, 2010. These floods were caused by abnormally high tides and significant thunderstorms off of the coast of California. Water peaked at about 18 inches high at a major intersection in Sunset Beach.

Madeira Floods, 2010: February 20th, 2010. Torrential rain resulted in floods and mudslides in Madeira that resulted in at least 32 casualties, making this the deadliest storm to hit the island nation since 1993.

El Salvador Floods, 2009: November 8th, 2009. Heavy rains caused flooding and mudslides that killed at least 90 people.

Indian Floods, 2008: July 3rd 2008-September 2008. These were a series of floods during the

2008 Monsoon season, and accounted for over 2,400 deaths. This was the second deadliest flood of the new millennium behind a similar series of monsoon-induced floods in India and Bangladesh in 2004. These events account for some of the highest recorded death totals for floods in history.

Heat Waves:

- **Northeastern Heat Wave, 2010:** July 3rd- July 7th, 2010. In some parts of the Northeast, temperatures reached 100°F, rivaling heat waves that have occurred in the region over the past 20 years. In New York City, the 103°F high on July 6th set the record for that date.

- **Argentine Heat Wave, 2009:** August 26th- August 31st, 2009. Even though August is the end of the winter season in the Southern Hemisphere, temperatures were more comparable to those of mid-Summer. Instead of the average temperature, which is about 60°F, average temperatures for the week were 90°F. In Sante Fe, Argentina temperatures peaked at an astounding 101°F. August 30th, 2009 was the hottest day ever recorded in the Argentine winter.

- **Australian Heat Wave, 2009:** January 25th- February 9th, 2009. According to the Australian Broadcasting Company, “there has not been a heat wave of this severity [in Australia] since the keeping of records in the mid-1880s.” The highest recorded temperature was 119.8°F in Hopetoun, Victoria. Experts say that this extreme heat wave exacerbated and prolonged the 2008-2009 Australian bush fire season, which resulted in 173 deaths and 2,029 homes being destroyed.

- The main fire took place on and around February 7th, 2009 and is referred to as the “Black Saturday bushfires”.

- **Argentine Heat Wave, 2009:** On and around January 23rd, 2009. Temperatures reached over 104°F for six consecutive days. It cost the Argentine farming industry over \$5 billion.

- From MSNBC.com: “During this heat wave Victoria suffered from large bushfires which claimed the lives of more than 210 people and destroyed more than 2,500 homes”

Wildfires:

California Wildfires, 2008: May 22nd- August 29th, 2008. According to experts, a significant contributing factor to the wildfire was the record low Spring rainfall that was less than 1/3 of the previous low set in 1934. When compared to the 2007 California Wildfires (see below), the 2008 Wildfires are characterized chiefly by a higher loss of life, with 23 casualties. Additionally, the 2008 Wildfires collectively burned over twice as much land as did the 2007 Wildfires, destroying over 1,000,000 acres.

California Wildfires, 2007: October 20th- November 9th, 2007. Similar to the 2008 Wildfires, drought is identified as a significant contributing factor. The fires collectively burned over 500,000 acres and resulted in 14 casualties.

For updates about current severe weather events and alerts, please visit the National Oceanic and Atmospheric Association's National Weather Service: www.weather.gov

For more information on how to prepare and protect yourself in the event of a natural disaster, please visit the website of the National Oceanic and Atmospheric Administration: <http://lwf.ncdc.noaa.gov/oa/climate/severeweather/extremes.html>